

### REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

Claims 1-42 were pending. Claims 1-21 have been canceled. Claims 22-42 were examined. Applicant has amended the specification, claims, and drawings to correct informalities. For the reasons stated below, Applicant respectfully submits that all claims pending in this application are in condition for allowance.

In the Office Action mailed December 16, 2004, it was indicated that descriptive labels were required for FIGs. 6E-F, 9, 10, 12-19, 40, 44A-C, 62A-B, and 73A-B. The specification and claims 22, 38, and 39 were objected to for informalities, and the references cited on page 3 and 6 of the specification should be submitted in an IDS. Finally, claims 22-42 were rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the enablement requirement. To the extent these grounds of rejection and objection might still be applied to claims presently pending in this application, they are respectfully traversed.

Applicant believes that the amendments made to claims 22, 38, and 39, and Figs. 6E-F, 9, 10, 12-19, 40, 44A-C, 62A-B, and 73A-B overcome the objections stated in the Office Action. Applicant, therefore, respectfully requests that the Examiner withdraw the objections made to the claims and the drawings. Furthermore, Applicant has submitted a new FIG. 47 to replace the original FIG. 47. The newly-presented FIG. 47 provides better correspondence among the specification and the figures. The subject matter of this figure is described in the specification as originally filed. Accordingly, no new matter has been introduced.

With respect to the requirement for submitting the references cited on pages 3 and 6, Applicant respectfully notes that the reference cited on page 3 has already been submitted in an IDS and has been so acknowledged by the Examiner (see the end of the Office Action.) Applicant, however, cannot find any other references that are cited on page 6, as alleged by the Examiner, or other pages of the specification. Thus, it is respectfully requested that the Examiner withdraw this objection.

With respect to the §112 rejection of claims 22-42, the Applicant submits that the specification fully and clearly describes the subject matter recited in the claims to enable one ordinarily skilled in the art to make and/or use the claimed invention. The Applicant respectfully urges the Examiner to focus on the description as emphasized below.

An upturned compressor is one of nine classes of “conditionally nonblocking switches.” The entire Section D of the specification discusses the definition and construction of “conditionally nonblocking switches,” where sub-section D3 of the specification defines the characteristics of an upturned compressor, while sub-sections D6, D7 and D8 of the specification describe different ways to construct conditionally nonblocking switches, including upturned compressors. In particular, sub-section D6 of the specification teaches how to construct an upturned compressor through 2X and/or recursive 2X interconnection of smaller upturned compressors, where descriptions about the 2X and recursive 2X interconnection are given in the Section B of the specification. Examples of small upturned compressors are given in sub-section D3 of the specification. For instance, Examples 7 and 8 show 2×2 upturned compressors and 3×3 upturned compressors, respectively. Next, sub-sections D7 and D8 of the specification teach

how to construct an upturned compressor by a special sub-class of banyan-type networks and by any arbitrary banyan-type networks, respectively, where the subject of "banyan-type network" is fully discussed in Section C of the specification.

The main concerns of the Examiner are (1) how an upturned compressor actually work, i.e., how it routes the incoming signals to their destination, and (2) how the two claimed constraints, namely, (i) the  $m$  active output addresses are consecutive upon a rotation of the ordering of the  $N$  output addresses, and (ii) a correspondence between the  $m$  active input addresses and the  $m$  active output addresses is order reversing after the rotation, assist in routing the incoming signals. Applicant respectfully submits that the claimed upturn compressor is a kind of conditionally nonblocking switch and the two constraints are for the connection requests. That is, in the present application, when the connection request meets the two constraints, the upturn compressor routes the incoming signals. A connection request to a switch means that a number of incoming signals arrived at the input ports of the switch "request" to be routed to a specific set of output ports. Assume that the destinations are distinct. Even there is no output contention, if the switch is not strictly nonblocking, such as connection request cannot always be accommodated by the switch due to internal blocking. However, if the switch is conditionally nonblocking, then such switch can accommodate any connection request, i.e., it is "nonblocking", as long as the connection request meets certain "condition".

The operation and the role that the constraints play in routing the signals have been described in Sections A and D of the specification. Section A of the specification discloses each switch has a number of connection states, where each connection state connects certain inputs to

certain output of the switch. A conditionally nonblocking switch contains sufficient connection state and can be activated to accommodate the connection request, which is disclosed on Section D of the specification. As per the question of how to choose and activate a suitable connection state, it is given in Section G and H of the specification, which teaches the control of the switches.

With the foregoing explanation, Applicant respectfully submits that the pending claims are, in fact, enabled by the specification.

By the same rationale, the drawings should not be objected to under 37 CFR 1.83 because the Applicant's drawings do show every feature of the invention specified in the claims, especially in view of the fact that the full details of the claimed subject matter are not just given in sub-section D3 of the specification and its figures, but is also covered by the description and the accompanying figures in Sections B, C and D of the specification. Therefore, the Applicant submits that the drawings have been given to fully illustrate every feature of the invention specified in the claims.

It is worthwhile to mention that Applicant filed a total of nine applications (including the present one) that are directed to similar technology. Among these applications, applications serial no. 09/882,113 and 09/882,202 have been allowed without the §112, first paragraph rejection. Accordingly, Applicant submits that instant §112, first paragraph rejection is misplaced.

In view of the foregoing all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is

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desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone applicant's undersigned representative at the number listed below.


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Respectfully submitted,

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Date: March 16, 2005

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**Amendments to the Drawings:**

The attached sheets of drawings include changes to Figs. 6E, 6F, 9-10, 12-19, 40, 44A-44C, 47, 62A-62B, and 73A-73B. These sheets, which includes the above figures, replaces the original sheet including the above figures.

Attachment: Replacement Sheets